

## ECOSYSTEM-BASED MANAGEMENT INDICES AND INFORMATION

### *Ecosystem Goal: Maintain and Restore Fish Habitats*

#### **Groundfish pelagic trawl fishing effort in the Eastern Bering Sea**

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Fishing intensity in the pelagic trawl fishery in the eastern Bering Sea can be described in either effort (number of hauls) or duration (amount of time net is in the water). Observed duration for the pelagic trawl fisheries is shown in Figure 130. The spatial pattern of fishing effort was summarized on a 5km<sup>2</sup> grid (Figure 131). Areas of high fishing effort are north of the Aleutian Islands near Bogoslof Island along the shelf edge represented by the boundary of report areas 509 and 519. The predominant fish harvested within the eastern Bering Sea is walleye pollock (*Theragra chalcogramma*). Pollock occur on the sea bottom but are also found in the water column to the surface. Most catch of pollock is taken at 50-300 m.

In 1990, concerns about bycatch and seafloor habitats affected by this large fishery led the North Pacific Fishery Management Council to apportion 88% of the TAC to the pelagic trawl fishery and 12% to the nonpelagic trawl fishery (NPFMC 1999). For practical purposes, nonpelagic trawl gear is defined as trawl gear that results in the vessel having 20 or more crabs (*Chionecetes bairdi*, *C. opilio*, and *Paralithodes camtschaticus*) larger than 1.5 inches carapace width on board at any time. Crabs were chosen as the standard because they live only on the seabed and they provide proof that the trawl has been in contact with the bottom.

In 2004, fishing effort was anomalously high throughout the main footprint of the fishery (Figure 132) these were based almost entirely on catches of pollock. Some changes in fleet movement may be attributed to the AFA fishing cooperative structure and voluntary rolling hotspot closures to reduce the incidental take of chinook salmon and “other salmon” bycatch.

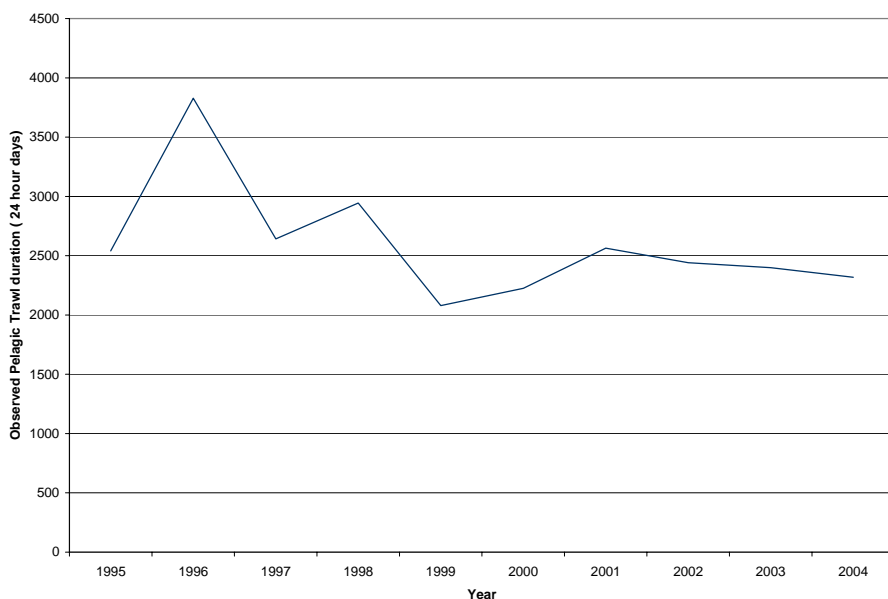


Figure 130. Observed pelagic trawl time in the eastern Bering Sea during 1990-2004.

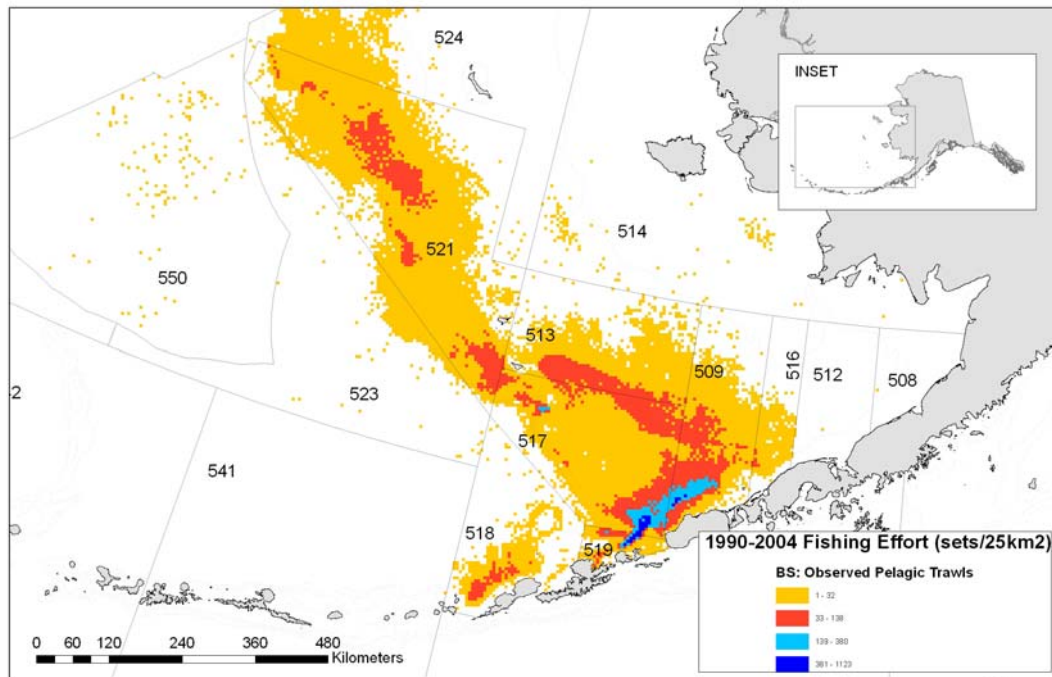


Figure 131. Spatial location and density of pelagic trawl effort in the eastern Bering Sea 1990-2004.

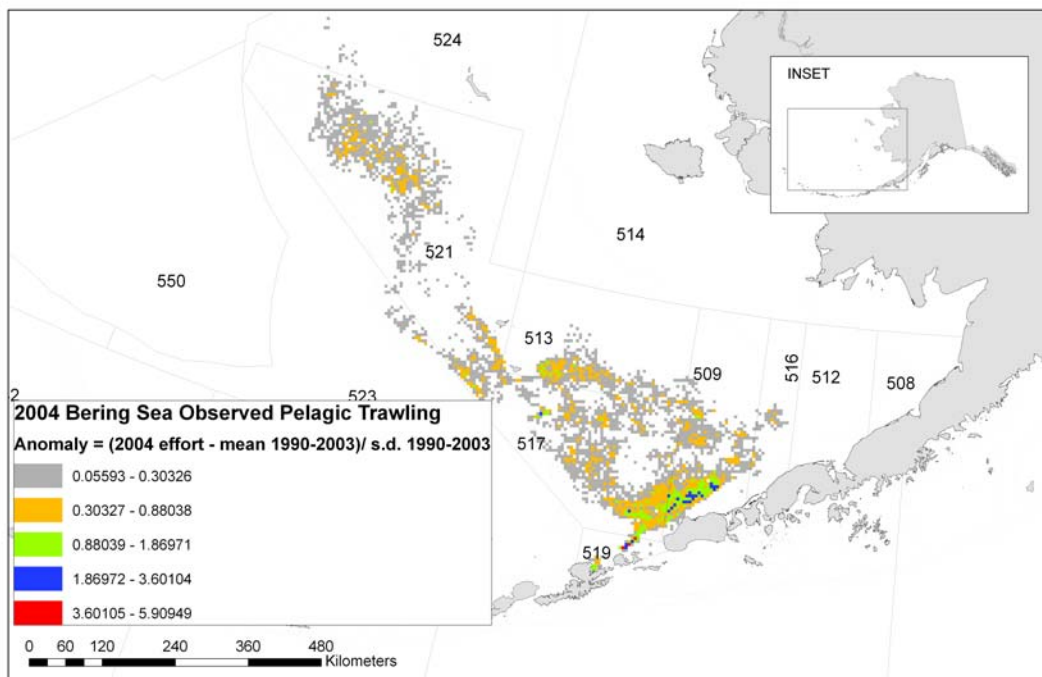


Figure 132. Anomaly plot for Bering Sea observed pelagic trawling effort in 2004 relative to the average effort during 1990-2003 ((estimated effort for 2004 - average effort from 1990-2003)/stdev(effort from 1990-2003)).